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T RELOADED: Apr 12, 2004 (20040412/UP).

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     (FILE 'HOME' ENTERED AT 14:55:11 ON 13 APR 2004)

     FILE 'MEDLINE, BIOTECHDS, EMBASE, BIOSIS, SCISEARCH, CANCERLIT, CAPLUS'
     ENTERED AT 14:55:23 ON 13 APR 2004
L1             0 S MULTIPLE DECTOR SYSTEM
L2             0 S  ADJUSTABLE AND DECTECTOR
L3         11868 S (ADJUST? OR MOVABLE OR ROTAT?) AND DETECTOR
L4          1021 S L3 AND ANGLE
L5            62 S L4 AND (MULTIPLE OR PLURAL?) AND DETECTOR#
L6            42 DUP REM L5 (20 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 15:12:15 ON 13 APR 2004

     FILE 'MEDLINE, BIOTECHDS, EMBASE, BIOSIS, SCISEARCH, CANCERLIT, CAPLUS'
     ENTERED AT 15:20:50 ON 13 APR 2004
L7           278 S L3 AND ARRAY DETECTOR#
L8            29 S L7 AND (CHARGE? COUPL? DEVIC## OR CCD)
L9            20 DUP REM L8 (9 DUPLICATES REMOVED)
L10            6 S L7 AND L4

     FILE 'STNGUIDE' ENTERED AT 15:28:53 ON 13 APR 2004

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THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 24 OF 42 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN DUPLICATE 5
ACCESSION NUMBER: 1999:368776 SCISEARCH
THE GENUINE ARTICLE: 193AU
TITLE: Single-beam integrating sphere spectrophotometer for reflectance and transmittance measurements versus **angle** of incidence in the solar wavelength range on diffuse and specular samples
AUTHOR: Nostell P (Reprint); Roos A; Ronnow D
CORPORATE SOURCE: UNIV UPPSALA, DEPT MAT SCI, S-75121 UPPSALA, SWEDEN (Reprint); MAX PLANCK INST FESTKORPERFORSCH, D-70569 STUTTGART, GERMANY
COUNTRY OF AUTHOR: SWEDEN; GERMANY
SOURCE: REVIEW OF SCIENTIFIC INSTRUMENTS, (MAY 1999) Vol. 70, No. 5, pp. 2481-2494.
Publisher: AMER INST PHYSICS, CIRCULATION FULFILLMENT DIV, 500 SUNNYSIDE BLVD, WOODBURY, NY 11797-2999.
ISSN: 0034-6748.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: PHYS; ENGI
LANGUAGE: English
REFERENCE COUNT: 20

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A multipurpose instrument for the measurement of reflectance and transmittance versus **angle** of incidence for both specular and diffuse samples in the solar wavelength range has been constructed and evaluated. The instrument operates in the single-beam mode and uses a common light source for three experimental setups. Two integrating spheres, 20 cm in diameter, are used for diffuse transmittance and reflectance measurements. The transmittance sphere can be turned around an axis through the sample to vary the **angle** of incidence. The reflectance sphere uses a center mounted sample and a special feature is the position of the **detector**, which is mounted on the sample holder at the center of the sphere. This way the **detector** always sees the same part of the sphere wall and no light can reach the **detector** directly from the sample. The third setup is an absolute instrument for specular samples. It uses a small averaging sphere as a **detector**. The **detector** is mounted on an arm which **rotates** around the center of the sample, and it can thus pick up both the reflected and transmitted beams including all multiply reflected components. The averaging sphere **detector** is insensitive to small side shifts of the detected beams and no **multiple** reflections between **detector** and optical system occur. In this report a number of calibration procedures are presented for the three experimental setups and models for the calculation of correct transmittance and reflectance values from measured data are presented. It is shown that for integrating sphere measurements, the geometry of the sphere and the diffusivity of the sample as well as the sphere wall reflectance and port losses are important factors that influence the result. For the center mounted configuration these factors are particularly important and special emphasis is given to the evaluation of the reflectance sphere model. All three instrument setups are calibrated using certified reference materials and nonscattering mirrors and substrates. The results are also compared to the results of a double-beam Beckman integrating sphere for near normal angles of incidence and Fresnel calculations. The results in this article show that good agreement is obtained between results from the different instruments if, and only if, proper evaluation procedures are applied to the measured signals. (C) 1999 American Institute of Physics. [S0034-6748(99)04305-1].

A variable-resolution **rotate**-only computed tomography scanner.

AUTHOR: Hangartner T N
CORPORATE SOURCE: BioMedical Imaging Laboratory, Wright State University, Dayton, Ohio.

SOURCE: Medical physics, (1994 Oct) 21 (10) 1557-63.
Journal code: 0425746. ISSN: 0094-2405.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199503
ENTRY DATE: Entered STN: 19950407
Last Updated on STN: 19950407
Entered Medline: 19950328

AB The Rotoscan is a computed tomography scanner that combines the advantages of variable geometric resolution and **adjustable** size of measurement diameter of translate-**rotate** scanners with the improved speed of **rotate**-only scanners. Because of the small number of only 26 **detectors** used for this scanner, a special data collection scheme of **multiple rotations** with interleaved **detector** positions was employed. In order to avoid angular data interpolation after reordering of the projections from the fan- to a parallel-beam geometry, the **detectors** were incrementally moved at a right **angle** to the centerline of the fan rather than **rotated** about the source. The measurement time of 40 s for one cross-section is comparable to that of second-generation systems. However, for longer measurement diameters, the measurement time for second-generation systems increases, whereas that of the Rotoscan remains constant.

132:173106

TITLE: Multidetector hemispherical polarized optical scattering instrument

AUTHOR(S): Germer, Thomas A.

CORPORATE SOURCE: Optical Technology Div., National Institute of Standards and Technology, Gaithersburg, MD, USA

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1999), 3784(Rough Surface Scattering and Contamination), 304-313
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A multidetector optical scattering instrument is described and characterized. The instrument has twenty-eight **detectors** surrounding and substantially covering the scattering hemisphere. Each **detector** contains a polarizer so that each is only sensitive to p-polarized scattered light. The polarization of the incident light is linear and can be **rotated** into any **angle**. With this instrument, polarized light scattering measurements can be performed in **multiple** directions at once. The utility of this instrument is demonstrated by measuring the light scattered from a microrough Si sample and Si surfaces containing different sizes of polystyrene latex spheres. The results are compared to the predictions of theor. calcns. The distribution of polarization parameters for each of the different sizes of spheres and for microroughness are different. It is expected that designs similar to the 1 presented here will allow for improved online characterization of defects on smooth surfaces.

REFERENCE COUNT: 19 THERE ARE 19 CITED R

Vidicon-camera parallel-detection system for **angle**-resolved electron spectroscopy

AUTHOR(S): Weeks, S. P.; Rowe, J. E.; Christman, S. B.; Chaban, E. E.
CORPORATE SOURCE: Bell Lab., Murray Hill, NJ, 07974, USA

SOURCE: Review of Scientific Instruments (1979), 50(10), 1249-55
CODEN: RSINAK; ISSN: 0034-6748
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A **multiple-angle**, parallel detection scheme for UV photoemission spectroscopy and LEED was developed based on a minicomputer-controlled vidicon camera and a LEED-grid energy analyzer. This system allows rapid data acquisition and display so that one can obtain energy spectra over a 70° + 70° collection geometry with ±1.5° resolution in 30-40 min, or collect the intensities of all visible LEED beams in a few s. This is nearly 2 orders of magnitude faster than a conventional **movable** single-**detector** system. Operating principles and design limitations will be discussed.

PubMed ID: 7869987

TITLE: A variable-resolution **rotate**-only computed tomography scanner.

AUTHOR: Hangartner T N

CORPORATE SOURCE: BioMedical Imaging Laboratory, Wright State University, Dayton, Ohio.

SOURCE: Medical physics, (1994 Oct) 21 (10) 1557-63.
Journal code: 0425746. ISSN: 0094-2405.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199503

ENTRY DATE: Entered STN: 19950407
Last Updated on STN: 19950407
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AB The Rotoscan is a computed tomography scanner that combines the advantages of variable geometric resolution and **adjustable** size of measurement diameter of translate-**rotate** scanners with the improved speed of **rotate**-only scanners. Because of the small number of only 26 **detectors** used for this scanner, a special data collection scheme of **multiple rotations** with interleaved **detector** positions was employed. In order to avoid angular data interpolation after reordering of the projections from the fan- to a parallel-beam geometry, the **detectors** were incrementally moved at a right **angle** to the centerline of the fan rather than **rotated** about the source. The measurement time of 40 s for one cross-section is comparable to that of second-generation systems. However, for longer measurement diameters, the measurement time for second-generation systems increases, whereas that of the Rotoscan remains constant.